

## 2015-2016 School Nominee Presentation Form

### ELIGIBILITY CERTIFICATIONS

#### School and District's Certifications

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes grades Pre-K-12.
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review. The Department of Defense Education Activity (DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

### U.S. Department of Education Green Ribbon Schools 2015-2016

Public  Charter  Title I  Magnet  Private  Independent  Rural

Name of Principal: Ms. Alisa Pauley

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name: Heritage Elementary School

Official School Name Mailing Address: 3350 Summit View Parkway, Highlands Ranch, CO 80126

County: Douglas County State School Code Number \*: 3926

Telephone: (303) 387-6725 Fax: n/a

Web site/URL: <http://www.dcsdk12.org/school/heritage-elementary-school> E-mail: [Alisa.Pauley@dcsdk12.org](mailto:Alisa.Pauley@dcsdk12.org)

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.



(Principal's Signature)

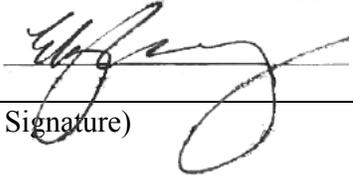
Date: 1/13/2016

Name of Superintendent: Dr. Elizabeth Celania-Fagen

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)

District Name: Douglas County School District

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.



Date: 1/15/2016

(Superintendent's Signature)

### **Nominating Authority's Certifications**

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency: Colorado Department of Education

Name of Nominating Authority: Mr. Richard Crandall, Commissioner of Education  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.



Date: 1/24/2016

(Nominating Authority's Signature)

### **SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS**

Provide a coherent summary that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars. Then, include concrete examples for work in every Pillar and Element. Only schools that document progress in every Pillar and Element can be considered for this award.

### **SUBMISSION**

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to [ed.green.ribbon.schools@ed.gov](mailto:ed.green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2018

### **Public Burden Statement**

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email [ICDocketMgr@ed.gov](mailto:ICDocketMgr@ed.gov) and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

## U.S. Department of Education Green Ribbon Schools Award 2015-2016 Application - Colorado

### SCHOOL CONTACT INFORMATION

School Name: Heritage Elementary School      District Name: Douglas County School District

Street Address: 3550 Summit View Parkway, Highlands Ranch, CO 80126

Website: <http://www.dcsdk12.org/school/heritage-elementary-school>

Facebook page: <https://www.facebook.com/HeritageExplorers>

Principal Name: Alisa Pauley

Principal Email Address: [Alisa.Pauley@dcsdk12.org](mailto:Alisa.Pauley@dcsdk12.org)      Phone Number: 303-387-6725

Application Contact Name: Sue Antonsen, Courtney Kuntz

Application Contact Email: [Sue.Antonsen@dcsdk12.org](mailto:Sue.Antonsen@dcsdk12.org), [Courtney.Kuntz@dcsdk12.org](mailto:Courtney.Kuntz@dcsdk12.org)

Phone Number: 303-250-3276, 720-663-1206

### School Demographics

<b>Level</b> <input type="checkbox"/> Early Learning Center <input checked="" type="checkbox"/> Elementary (PK - 5 or 6) <input type="checkbox"/> K - 8 <input type="checkbox"/> Middle (6 - 8 or 9) <input type="checkbox"/> High (9 or 10 - 12)	<b>School Type</b> <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private/Independent <input type="checkbox"/> Charter <input type="checkbox"/> Magnet	<b>How would you describe your school?</b> <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban <input type="checkbox"/> Rural	<b>Is your school in one of the largest 50 districts in the nation?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Does your school serve 40% or more students from disadvantaged households?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>% receiving FRPL: 4.26%</b> <b>% limited English proficient: 4.7%*</b> <small>*This is the percentage of students served by ELL program</small>		<b>Total enrolled: 642</b> <b>Graduation rate: N/A</b> <b>Attendance rate: 95.89%</b>
<b>Is your school participating in a local, state or national school program, such as EPA ENERGY STAR Portfolio Manager, EcoSchools, Project Learning Tree, or others, which asks you to benchmark progress in some fashion in any or all of the Pillars?</b>		Program(s) and level(s) achieved: <ul style="list-style-type: none"> <li>• Eco-Schools USA Green Flag Award</li> <li>• Green Up Our Schools participant 2014-2017</li> <li>• Douglas County School District Sustainability Incentive Program 2013-14 (Energy), 2014-15 (Waste)</li> </ul>	
<b>Has your school received any awards for facilities, health or environment?</b>		Award(s) and year(s): <ul style="list-style-type: none"> <li>• Eco-Schools USA Green Flag Award 2014</li> <li>• National Wildlife Federation named Heritage Elementary as one of America's Top 10 Eco-Schools in 2015</li> <li>• District received the ED-GRS District Sustainability Award 2013-14</li> <li>• National Wildlife Federation Certified Schoolyard Habitat, 2015</li> <li>• Lead Sustainability Champion received the Teacher of Excellence in Agriculture Award</li> </ul>	

## Summary Narrative

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Heritage Elementary School is a model of comprehensive school sustainability, excelling in addressing the Three Pillars of the U.S. Department of Education Green Ribbon Schools Award. As a result of its “green” culture, the school received its Eco-Schools USA Green Flag in 2014 and was named by the National Wildlife Federation (NWF) as one of America’s Top 10 Eco-Schools in 2015. Heritage was also a featured stop during the 2014 U.S. Department of Education Green Strides Tour of Douglas County School District.

### ***Pillar I: Reduced Environmental Impact and Costs***

Heritage’s Energy Team, in collaboration with Operations and Maintenance, has worked to “green up” the school’s impact on the environment. On-site solar panels provide about 27% of the building’s energy, and the school has reduced its energy consumption by 14% over three years. The automated irrigation system and use of native plants and *hugulkultur* gardening ensures efficiency of water use on school grounds, reducing domestic water usage by 8% and irrigation by 35%. Students and teachers work diligently to implement waste diversion strategies, including recycling, composting, and using food waste to feed the chickens, resulting in a 57% diversion rate. We have a cafeteria recycling program that has been in place for two years. Before we started this program we were sending 400 pounds of waste to the landfill. The second year of the program we reduced that to 200 pounds to the landfill, and this year we average 107 pounds of waste to the landfill from our cafeteria. About 37% of students participate in Walk or Wheel Wednesdays and “no idle” zones are posted and enforced in the car loop. Our Green Team and Art teacher create upcycled jewelry, planters and cheese trays out of soda cans, gift cards, large tin cans that tomatoes can in and large glass bottles. Students sell these items at our farmer’s markets in the Fall and Spring and the Annual World Market in December.

### ***Pillar II: Improved Health and Wellness***

Heritage is actively engaged in Douglas County School District’s Healthy Schools Program. Utilizing the “Whole School, Whole Community, Whole Child” model, Heritage has both a Coordinated School Health Team as well as a Student Led Health Team. These teams have worked to increase physical activity before, during, and after the school day, utilize brain boosters throughout the day, increase awareness for mental and physical health, and address bullying. For six years, Heritage has had a thriving school garden that promotes health and wellness through growing fresh produce for students to taste and experiment. A chicken coop provides eggs that are sold to the school community. The NWF Certified Native Habitat provides an outdoor classroom for science, writing, art, and environmental studies. Outdoor education and a robust health curriculum ensures students are physically active and engaged in the outdoors.

### ***Pillar III: Effective Environmental and Sustainability Education***

Sustainability education is integral to the fabric of Heritage. Teachers across disciplines utilize the school gardens and outdoor classrooms for inquiry, inspiration, and experimentation. Art students use the garden for inspiration for still life drawing. Third graders set up an experiment to see if the Native American form of gardening enhanced corn growth. All students participate in our cafeteria recycling program and see first-hand the cycle of sustainability through composting and gardening. Students learn first-hand the impact they can have in producing their own food. Sixth graders learn about energy conservation in collaboration with Xcel Energy’s “Think Energy” take home kits. Our school grounds are a hub for the community to learn about sustainability by helping with the garden, chickens, and composting. Through this, students see the broader impact of their work and learn the civic applications. Heritage’s sustainability champions also support other schools and districts by sharing resources, examples, and mentoring, serving to build the green school community in Colorado and beyond.

## **Pillar I: Reduced Environmental Impact and Costs**

### **Element IA: Improved energy conservation/energy-efficient building(s)**

#### **1. Has your school reduced its total non-transportation energy use from an initial baseline?**

(X) Yes

- Current energy usage (kBTU/student/year): 5636 kBTU per student
- Current energy usage (kBTU/sq. ft./year): 70 kBTU/sq. ft.
- Percentage reduction: 14%
- How did you document this reduction? Actual utility bills data from providers comparing 2011-12 to 2014-2015 school years. Our program includes a variety of energy conservation initiatives including student energy management, solar panels, updating controls, and building optimization. We achieved this reduction despite implementing an increase in tech devices from 267 to 850 to provide each student access to iPads, laptops, and Chromebooks. Students continuously evaluate how to improve: this year they are implementing timers on the charging carts to avoid charging overnight. Signs are posted over light switches to remind students and teachers to turn off lights when they are not in the room. E-mailed reminders are sent out to staff to be thoughtful about energy usage and turn off lights, projectors, and smart boards when not in use. The District is also supporting initiatives at Heritage through its Sustainability Incentive Program and other strategic initiatives. This program gives a portion of the energy savings (as well as waste and transportation) back to the school to use for furthering their green programs. Heritage has participated in the program each year, addressing energy (13-14), waste (14-15), and waste and transportation (15-16). In addition, the Office of Sustainability and Operations and Maintenance has initiated the process of developing a Sustainability Management Plan for the entire district.

#### **2. What percentage of your school's energy is obtained from:**

- On-site renewable energy generation: 27% of the school's electrical usage is produced by on-site solar panels, as calculated by a three year average.
- Purchased renewable energy: N/A
- Participation in USDA Fuel for Schools, DOE Wind for Schools or other federal or state school energy program: N/A

#### **3. Can your school demonstrate a reduction in Greenhouse Gas emissions?**

(X) Yes

- Percentage reduction: 7.5% reduction from June 2012 - June 2015
- Initial GHG emissions rate (MT eCO<sub>2</sub>/person): .65
- Final GHG emissions rate (MT eCO<sub>2</sub>/person): .60
- How did you calculate the reduction? Calculated from the EPA Greenhouse Gas Equivalencies Calculate using electrical and natural gas usage.

#### **4. Do you track resource use in EPA ENERGY STAR Portfolio Manager? (X) No**

The district has plans to track ENERGY STAR scores in FY 2015-16

#### **5. In what year was your school originally constructed? 2001**

**What is the total building area of your school?** 51,688 square feet

#### **6. Has your school constructed or renovated portion(s) of the building in the past 10 years?**

(X) No

**Element IB: Improved Water Quality, Efficiency and Conservation**

**7. Can school demonstrate a reduction in water consumption from an initial baseline? (X) Yes**

- Average Baseline water use (gallons per occupant): 3.47 kGal per occupant
- Current water use (gallons per occupant): 2.48 kGal per occupant
- Percentage reduction in domestic water use: 8% reduction from a 3-year rolling average
- Percentage reduction in irrigation water use: 35% reduction from a 3-year rolling average
- Time period measured: 3 year average - 06/2015
- How did you document this reduction (i.e., ENERGY STAR Portfolio Manager, utility bills, school district reports)? Actual water bills reporting.

**8. Percentage of school's landscaping considered water-efficient and/or regionally appropriate: 50%**

*Types of plants used and location:*

The landscaping adjacent to the schools and mobiles are primarily rock landscaping. The NWF native habitat uses all Colorado native plants. *Hugulkultur* use in garden requires less water than a traditional garden by building raised beds out of logs, twigs, branches, etc. The wood provides water retention, thus reducing water needs for the garden, as well as additional nutrients from decomposition. The only landscaping that is irrigated turf is the playing field and small segments in the front of the school building.

**9. Describe alternate water sources used for irrigation, if possible.**

While we don't use alternate water sources for irrigation, DCSD's irrigation system utilizes on-site rain volume monitors to ensure appropriate levels of irrigation. We have several maintenance policies to reduce consumption for domestic water. Monthly maintenance checks of closed systems verify integrity and reduce potential leaks or system losses.

**10. Describe any efforts to reduce storm water runoff and/or reduce impermeable surfaces.**

Impermeable surfaces are limited to basic needs such as parking lot, sidewalks and hard surfaces for outdoor recreation. Run-off from impermeable surfaces is directed towards landscaping first to filter particulates before going into storm drains when possible.

**11. Our school's drinking water comes from: (X) Municipal water source ( ) Well on school property**

**12. Describe how the water source is protected from potential contaminants.**

The water system is a closed system that brings water in from municipal sources disallowing contamination from outside sources.

**13. Describe the program you have in place to control lead in drinking water.**

Heritage's drinking water is provided through the municipal jurisdiction. These jurisdictions must meet all state and federal codes and regulations regarding safe drinking water.

**14. What percentage of the school grounds are devoted to ecologically beneficial uses?**

With a large garden, a chicken coop, a labyrinth, and a schoolyard habitat of native plants, about 25% of Heritage's school grounds are devoted to environmental education labs and ecologically beneficial use.

**Element IC: Reduced Waste Production**

**15. What percentage of solid waste is diverted from landfilling or incinerating due to reduction, recycling and/or composting?**

*A - Monthly garbage service in cubic yards* (garbage dumpster size(s) x number of collections per month x percentage full when emptied or collected): 6 cubic yard waste at 50% full with 3 day pickup X 4.5 weeks = *40.5 cubic yards per month*

*B - Monthly recycling volume in cubic yards* (recycling dumpster sizes(s) x number of collections per month x percentage full when emptied or collected): One six-cubic yard recycle bin picked up 2 days per week at 100% full when emptied X 4.5 weeks = *54 cubic yards per month*

*C - Monthly compostable materials volume(s) in cubic yards* (food scrap/food soiled paper dumpster size(s) x number of collections per month x percentage full when emptied or collected):

Compostable waste including food scraps that go to our chickens = 15 lbs a day X 22 weekdays = 330 lbs a month = *.31 cubic yards per month*

*Recycling Rate* =  $((B + C) \div (A + B + C) \times 100)$ :  $54.32/94.82 = 57.28\%$  *Diversion Rate*

*Monthly waste generated per person* =  $(A/\text{number of students and staff}) = .058$  *cubic yards per month per person*

Recycling is a school-wide effort. Each classroom has a recycling bin and a box for papers that have not been used on both sides with the sign: “Before you are through use side 2”. Each pod area has a large recycling bin as well as our front office spaces. We have a cafeteria recycling program that has been in place for two years. There are four bins: landfill, compost, chicken (food scraps to feed the chickens), and a recycling can. All students are involved in separating their lunch waste and throwing it in the appropriate bin. Before we started this program we were sending 400 pounds of waste to the landfill. The second year of the program we reduced that to 200 pounds to the landfill, and this year we average 107 pounds of waste to the landfill from our cafeteria. The leftover food scraps supplement our chickens’ diet and other food scraps, paper bags, and napkins go into one of two compost bins. Our outdoor compost is used for used chicken bedding, food scraps, and the habitat garden. Our indoor vermicompost is used for our vegetable garden. Our Green Team and Art teacher have collaborated to create upcycled jewelry, planters and cheese trays out of soda cans, gift cards, large tin cans that tomatoes can in and large glass bottles. Students sell these items at our farmer’s markets in the Fall and Spring and the Annual World Market that we host in December. A new campaign this year will be using reusable plates, cups, and flatware for classroom parties. Our library is used for an innovative collaborative space, where we provide students with non-working computers that they can explore to determine how they work or use to use parts for other projects. Discarded batteries from items at school are collected in the front office for proper recycling.

**16. What percentage of your school's total office/classroom paper content is post-consumer material, fiber from forests certified as responsibly managed and/or chlorine-free?**

98% of purchased construction and copy paper is labeled Certified Sourcing through the Sustainable Forest Initiative.

**17. List the types and amounts of hazardous waste generated at your school:**

<i>Flammable liquids</i>	<i>Corrosive liquids</i>	<i>Toxics</i>	<i>Mercury</i>	<i>Other</i>
N/A	N/A	N/A	Usage of low mercury fluorescent lighting	

- *How is this measured?* Measured replacement/disposal quantities

- *How is hazardous waste disposal tracked?* Cradle to grave tracking of all hazardous waste utilizing a certified contractor.
- *Describe other measures taken to reduce solid waste and eliminate hazardous waste.* Eliminating hazardous waste starts with eliminating/reducing the process that ends up producing the hazardous waste in the first place. Finding greener alternatives to meet the same end goal is paramount to eliminating these processes.

**18. Which green cleaning custodial standard is used?** For daily cleaning supplies, our warehouse only stocks 100% green products. We do use some strippers and other products which do not have green alternatives.

*What percentage of all products is certified?* 80%

*What specific third party certified green cleaning product standard does your school use?* A number of Diversey's chemical products are rigorously tested and certified by independent organizations such as Green Seal™, Environmental Choice, GreenGuard, EU Flower, and Nordic Swan.

### **Element ID: Use of Alternative Transportation**

**19. What percentage of your students walk, bike, bus, or carpool (2+ students) to/from school?**

*How is this data calculated?*

From the data collected over a school year, the average percentage of student participation in Walk or Wheel Wednesday was 37%.

Bus riders: 20%

Carpool data has not officially been compiled. From observation 75% of the families that drive through the car loop have 2 or more students in their car.

**20. Has your school implemented?**

*Designated carpool parking stalls.*

*A well-publicized no idling policy that applies to all vehicles (including school buses).*

*Vehicle loading/unloading areas are at least 25 feet from building air intakes, doors and windows.*

*Safe Pedestrian Routes to school or Safe Routes to School.*

We participate in National Walk to School day to kick off our Walk or Wheel on Wednesday campaign. Classrooms with the most walkers/wheelers win the Green Shoe award or another prize for the week. We have “no idling” signs in our car loop and idling reduction campaigns for buses.

**21. Describe how your school transportation use is efficient and has reduced its environmental impact.**

Our Green team placed three “no idling” signs in the car loop, and wrote an article for our monthly newsletter. In Health, students learn that car/bus exhaust can trigger asthmatic episodes. Bus drivers are trained to stop idling by the District, which will implement an alternative fuel pilot in 2016.

**22. Describe any other efforts toward reducing environmental impact, focusing on innovative or unique practices and partnerships.**

In the effort to reduce waste, the school installed hand dryers in all bathrooms. A Colorado Native Habitat with a water feature was built near the gardens to create an outdoor learning space increasing biodiversity. Also, the school participates in Red Apple Recycling, a Denver-based non-profit and

textile recycling program for students, families, and the broader neighborhood community. Through providing a collection box and conducting clothing drives, Heritage diverted 8,081 pounds of textiles from the landfill in 2014 alone, and over 20,000 pounds since 2012.

## **Pillar II: Improved Health and Wellness**

### **Element IIA: Integrated School Environmental Health Program**

- 1. Provide details on your school's Integrated Pest Management (IPM) program including year of implementation, program responsibility/oversight, pest monitoring process, record keeping, pesticide use strategy and notification practices (if required).**

For many years, DCSD instituted several tactics and strategies that could be called IPM, but launched its formal Integrated Pest Management Program in summer 2015. The Environmental Health Manager, in conjunction with the building engineer, collaborates on pest issues to determine best course of action starting with the lowest risk strategies to reduce or eliminate the pest issue prior to moving onto higher risk (chemical applications) tactics. As the first line of defense, Heritage's building engineer (along with all district building engineers) is trained to address issues first with IPM strategies such as exclusion or pest habitat removal/relocation. If necessary, all application of pesticides are accomplished by a vetted outside IPM contractor. This eliminates the need for storage or inappropriate applications. Prior to pesticide usage, building leadership is brought in to understand the health and safety implications. All applications are done either outside of school hours, or done so as to eliminate any possibility of exposure to outside individuals.

- 2. Describe your efforts to reduce reliance on pesticides, and provide data on volume reductions over time if available.**

As mentioned above application of pesticides is secondary to other strategies or tactics. In addition, if and when pesticides are used, specific pest targeted products are used as opposed to broad spectrum applications. Unfortunately, since the IPM program is just getting started, we do not have any historical data to show reduction trends.

- 3. Which of the following practices does your school employ to minimize exposure to hazardous contaminants? Provide specific examples of actions taken for each checked practice.**

*[X] Our school prohibits smoking on campus and in public school buses.  
Strictly enforced signage on buildings, grounds, and buses.*

*[X] Our school has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school.*

Other than fluorescent lighting, all other sources of elemental mercury has been removed to include scientific instrumentation.

*[X] Our school uses fuel burning appliances and has taken steps to protect occupants from carbon monoxide (CO).*

Every room containing a fuel burning appliance contains a maintained carbon monoxide detector.

*[ ] Our school does not have any fuel burning combustion appliances.*

*[X] Our school has tested all frequently occupied rooms at or below ground level for radon gas and has fixed and retested all rooms with levels that tested at or above 4 pCi/L OR our school was built with radon resistant construction features and tested to confirm levels below 4 pCi/L.*

Every occupiable room regardless of quantity of time, is radon tested. If any levels above the standard 4.0 pCi/L, the space is mitigated and retested until all spaces are below the standard.

*[X] Our school has identified any wood playground or other structures that contain chromate copper arsenate and has taken steps to eliminate exposure.*

We do not have any wooden playground equipment. All district playground equipment is metal and has been replaced within the last 15 years.

**4. Describe how your school controls and manages chemicals routinely used in the school to minimize student and staff exposure.**

Much like the hazardous waste mitigation efforts, the best way to eliminate hazardous materials exposure is to eliminate the product or process that produced the hazardous material in the first place. Heritage Elementary School is an elementary school so scientific chemicals are limited to minute amounts found in pre-built scientific kits such as FOSS or such. The majority of scientific principles that are taught and utilized at the elementary level utilizes kitchen chemistry using products bought over the counter at a grocery store. This practice eliminates the need to store hazardous materials on site.

**5. Describe actions your school takes to prevent exposure to asthma triggers in and around the school.**

Identifying asthma triggers is a cornerstone to our indoor air quality program. Constant awareness of students' triggers is paramount to avoiding interference with day-to-day learning. Triggers such as plants, animals, and chemical usage are controlled heavily. If a student is identified to have negative sensitivities to any known allergen, the health and safety of that student trumps the benefit of having that animal, plant, or chemical present. Steps are taken to either eliminate that trigger or provide the student with an alternative. The Environmental Health Manager is responsive to within 72 hours to the school to evaluate, sample, identify, and mitigate found issues.

**6. Describe actions your school takes to control moisture from leaks, condensation and excess humidity and promptly cleanup mold or remove moldy materials when it is found.**

DCSD, through its Environmental Health Department, responds and reacts immediately to mitigate/eliminate any fluid source. This quick reaction to water cleanup issues all but eliminates the potential for mold growth. The district employs and certifies several mold mitigation technicians able to quickly, safely and effectively mitigate any mold issue that arises. If the work is beyond the capabilities of the internal crew, the district contracts with several outside contractors to provide water/mold mitigation services.

**7. Our school has local exhaust systems for major airborne contaminant sources. (X) Yes**

Local exhaust systems are present in the art room, boiler room, as well as the kitchen, separating these exhaust from normal mainstream HVAC exhaust.

**8. Describe your school's practices for inspecting and maintaining the building's ventilation system and all unit ventilators to ensure they are clean and operating properly.**

We do preventive maintenance on the equipment every 6 months with our trained in-house HVAC team. Each piece of equipment has a task list which includes checking, cleaning, lubing, and filter changes.

**9. Describe actions your school takes to ensure that all classrooms and other spaces are adequately ventilated with outside air, consistent with state or local codes, or national ventilation standards.**

All buildings comply with local codes and meet ASHRAE's guidelines. Outside ventilation is based off of the control program for the building. We have reading sensors that monitor the carbon dioxide levels and adjust the ventilation accordingly.

**10. Describe other steps your school takes to protect indoor environmental quality such as implementing EPA IAQ Tools for Schools and/or conducting other periodic, comprehensive inspections of the school facility to identify environmental health and safety issues and take corrective action.**

IAQ Tools for Schools and/or conducting other periodic, comprehensive inspections of the school facility to identify environmental health and safety issues and take corrective action. (200 word max)  
Douglas County Schools District does not utilize specifically the Tools for Schools program, but does implement a few common strategies such as single point of contact for indoor air quality concerns, allowing the building engineer to collect all concerns and elevate up to the Environmental Health Manager for investigation. This ensures that a proper investigation can take place to allow every concern to be addressed. Response time to an IAQ concern is less than 72 hours to evaluate, sample, identify, and collaborate on solutions quickly and effectively.

**Element IIB: Health and Wellness**

**11. Which practices does your school employ to promote nutrition, physical activity and overall school health? Provide specific examples of actions taken for each checked practice, focusing on innovative or unique practices and partnerships.**

*[ ] Our school participates in the USDA's HealthierUS School Challenge.*

*[X] Our school participates in a Farm-to-School program to use local, fresh food.*

Our school districts nutritional services uses local foods when it meets their standard. We participate in Colorado Proud day every year, celebrating our local agriculture. We received a grant this year for an Aeroponic Tower Garden that will be managed by our Cafeteria manager. Produce will be harvested and served on the Harvest Bar. Classrooms will also have access to the tower garden to study science concepts.

*[X] Our school has an on-site food garden.*

Our school garden helps teach nutrition, science, and social studies for 6 years. Students in Health participate in scavenger hunts to find all the foods in the garden a place them in the appropriate food group of MyPlate. Our chicken coop helps them learn about protein sources along with sunflower and pumpkin seeds. This year we planted our vegetables in straw bales to keep the bunnies out and keep the chickens from eating the produce when they free range. Students participate in the garden planting, maintenance, and harvesting through Health class, small group visits and during recess if they choose.

*[X] Our school garden supplies food for our students in the cafeteria, a cooking or garden class or to the community.*

Our cafeteria utilizes produce from the garden in the fall. Signage tells students where it came from, encouraging students to taste vegetables that they have not liked before. As a result, we have parent testimony that their children's favorite vegetable is now cherry tomatoes. We sell our eggs to the school community; some students even use their own money! On average, 5 families a year adopt

baby chicks from our third grade lifecycle curriculum (they hatch eggs in the classroom). Community neighbors visit our chickens in the afternoons and on weekends. We hold a Farmer's Market in the Fall and Spring.

*[X] Our students spent at least 120 minutes per week over the past year in school-supervised physical education.*

We are on a four specials rotation of PE, Art, Music and STEM. Students have PE every fourth week, for five days, and 45 minutes per session. Because students don't have PE every week, classroom teachers have had three professional development sessions on the importance of brain breaks during class time. We provide Health as a second special where students learn about the components that affect their health. It is a very active classroom that has exercise balls for seating instead of chairs and tables.

*[X] At least 50% of our students' annual physical education takes place outdoors.*

Weather permitting, our PE teacher takes the students outside, and even has specific outdoor units. In the Fall, students participate in Frisbee Golf and GaGa ball in our new outdoor GaGa ball pit. Students learned how to play the game during PE. Having it outside provides another option to be active during recess. In the Spring, the kickball unit takes place outside along with our annual Field Day.

*[X] Health measures are integrated into assessments.*

Our school participates in Fitness Gram so students are aware of the fitness level and can create goals around their fitness. Health Education is also a special. The health curriculum is a well-rounded program that focuses on all aspects of personal well-being. Students create their own personal goals in regards to getting the proper amount of sleep, proper nutrition by understanding the MyPlate model, adequate exercise, outdoor time versus screen time, proper hygiene, sun protection, and mental health such as understanding how to reduce stress.

*[X] At least 50% of our students have participated in the EPA's Sunwise (or equivalent program).*

We are implementing the Sunwise curriculum this year in health.

*[ ] Food purchased by our school is certified as "environmentally preferable".*

**12. Describe the type of outdoor education, exercise and recreation available.**

Sixth graders go on a week-long outdoor education program, learning lifelong recreational skills including biking, hiking, kayaking, and canoeing. The rest of the students get a fun fall festival with a kayaking pool and rock wall. We exchanged cookie dough/wrapping paper fundraisers for a Fun Run! Our native habitat garden provides an outdoor classroom and we have an annual Field Day. Students have an average of 1.5 hours of outdoor time a day. Students still visit the chicken coop in the snow and recently fourth graders built a large sundial in the garden-even though the ground was covered in snow!

**13. Describe any other efforts to improve health and wellness, highlighting innovative or unique practices and partnerships.**

A staff member from Heritage Elementary participated in the Trainer of Trainers workshop from CDE on Teaching with the Brain in Mind, with a goal to share this invaluable information with her school and district staff. Heritage Elementary has taken that one step farther and hosted a Teaching with the Brain in Mind class for parents through our district's Parent University program, giving

parents an opportunity to learn more about how their child's learning brain functions and identify strategies to support them at home and school, which was shared with the parent community via an article in the monthly newsletter. This article has been shared with other schools a neighboring school district.

**Element IIC: Coordinated School Health, Mental Health, School Climate and Safety**

**14. Does your school use a Coordinated School Health approach or other health-related initiatives to address overall school health issues? (X) Yes**

Heritage Elementary is actively engaged in the DCSD Healthy Schools program, which supports health and wellness initiatives at the school level. Utilizing the Whole School, Whole Community, Whole Child Model as a framework for supporting Coordinated School Health, Heritage Elementary has both a Coordinated School Health Team as well as a Student Led Health Team. The School Health Team has been in place for over six years and has conducted multiple assessments to determine the strengths and areas of growth for their school environment based on the 10 components of coordinated school health. These assessments included the School Health Index and Healthy Schools Scorecard. Currently, they are implementing a School Health Improvement Plan (SHIP) called Walk or Wheel on Wednesday, which encourages staff, students, and families to walk or wheel to and from school. The Student Led Health Team, which started two years ago has been focusing on increasing physical activity before, during, and after the school day for students through a Kaiser Thriving Schools grant. This student led team encouraged their peers and other staff members to utilize brain boosters throughout the day in the classroom to increase both oxygen and blood flow to the brain by purchasing PA Bags for the staff to use. They also encouraged classes to incorporate GoNoodle, a web-based program with standards-based brain boosters. Students implemented a hacky sack program at recess, teaching their peers basic hacky sack skills as a means to increase physical activity for indoor and outdoor recess.

**15. Does your school partner with any postsecondary institutions, businesses, nonprofit organizations, or community groups to support student health and/or safety? (X) Yes**

As mentioned above, Heritage Elementary has partnered with Kaiser Permanente on a Kaiser Thriving Schools grant with a focus on increasing physical activity for students and staff. We participate in Jump Rope for Heart every other year and have participated in the Fuel Up to Play 60 program. We have been a part of Healthy Schools Colorado which became Kaiser Thriving Schools for 6 years focusing on Coordinated School Health.

**16. Does your school have a school nurse and/or a school-based health center? (X) Yes**

**17. Describe your school's efforts to support student mental health and school climate (e.g., anti-bullying programs, peer counseling, etc.):**

We have a school social worker that, on top of her caseload, facilitates a student-led bully prevention student leadership team. We have put in place a Buddy Bench on the playground for students to utilize if they would like a friend to play with. They created a chain of kindness around the school that included links that were added when someone noticed another doing something kind and helpful. We focused on a Health and Wellness Prevention Framework last year. Two teacher PLL representatives were tasked with informing all classroom teachers of the mental health topic of the month so each grade level could focus on that. Stress reduction techniques is an example of one month's topic. The year ended with a letter to parents outlining where to find resources in the district and community over the summer months.

## **Pillar III: Effective Environmental and Sustainability Education**

### **Element IIIA: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems**

#### **1. Which practices does your school employ to help ensure effective environmental and sustainability education? Provide specific examples of actions taken for each checked practice, highlighting innovative or unique practices and partnerships.**

[ ] *Our school has an environmental or sustainability literacy requirement.*

[X] *Environmental and sustainability concepts are integrated throughout the curriculum.*

Sustainability is infused in the curriculum throughout all disciplines. Some examples include two bee boxes donated to our school so students could observe the bumblebee life cycle and learn about the importance of pollination to sustain our food source. We were able to extend this learning with the creation of a pollination garden in our native habitat garden. Sixth graders learn about energy and bring their knowledge home with a kit provided by Xcel Energy. As part of our reading curriculum, we have a variety of mini non-fiction books, one of which is, "Growing Goods in a Growing Country". After reading it, they compared it to growing food in our school garden and tied in our recycling, composting, and garden. Our fifth grade students read a nonfiction piece: The Power of Oil and write about conserving energy. In Spanish class, sixth graders were provided with a recipe and ingredients to make salsa roja and salsa verde. They harvested tomatoes, onions, and peppers from the Heritage Garden. The students translated the recipe into Spanish and made salsa. Some groups wanted their salsa spicier or chunkier and worked together on things such as taste and texture, then described the salsa in Spanish.

[X] *Environmental and sustainability concepts are integrated into assessments.*

85% of teachers at Heritage Elementary use a non-fiction magazine called Scholastic Reader. In these monthly readers are a variety of articles that contain environmental and sustainability concepts that our students read about, have conversations about, as well as compare and contrast the information learned. Each article has a quiz aligned to the content in the article and teachers give students the assessment/quiz with each article read. 85% to 90% of our students score proficiently on these quizzes. Many environmental and sustainable concepts are integrated into our daily curriculum in science, health, STEAM, and language arts allowing. Additional assessments are created to measure students' growth in those areas as well as toward our district's World Class Outcomes. An example of one of our World Class Outcomes is: 'Evaluate how your decisions impact your community'. Teachers develop assessments to measure growth and achievement on these World Class Outcomes using a rubric system.

[X] *Students evidence high levels of proficiency in these assessments.*

School-wide results have shown that 87% of our students score in the proficient category for these assessments. Our statewide tests (PARCC and CMAS) show our students to be 20% above the state average in overall scores in the area of Science and Language Arts. This would be a reflection in part due to the daily environmental and sustainability curriculum. Our student's scores in the area of Science and Language Arts were in the top 10% in Douglas County which we also attribute, in part, to our sustainability and environmental curriculum.

[X] *Professional development in environmental and sustainability education is provided to all teachers.*

Professional development is available through our district Office of Sustainability and onsite at Heritage through the Sustainability Coordinator. We train teachers at all grade levels each year in

how to use the garden in their curriculum. We have also partnered with National Wildlife Federation's Eco-Schools USA and hosted professional development courses at Heritage that involve teachers throughout the district and community. Our staff are contacted regularly by schools around the country interested in starting their own chicken coops and *hugulkultur* gardens. We do our best to support other teachers and schools by sharing our experiences and materials widely.

### **Element IIIB: Use of the environment and sustainability to develop STEM content, knowledge and thinking skills**

#### **2. How does your school use sustainability and the environment as a context for learning science, technology, engineering and mathematics thinking skills and content knowledge?**

STEM is provided to K-6 graders as a special. Fifth graders design and build a house to sustain a tornado (using a blow dryer to mimic the wind). Sixth graders learn about oil spills and their impact on the environment. They use a tub with water, and each student gets a feather with oil on it to recreate an oil spill and figure out how to clean it up. Fourth graders learn about potential and kinetic energy, then build a roller coaster for a marble. Third graders explore the structure of a bird nest and try to recreate one. We recently received a grant for a Tower Garden that will enhance our STEM explorations with hydroponics, involving Before and After School Program (BASE) students. The garden provides a living laboratory to learn about life cycles, agriculture, and finances. Our Farm Team works with our district chef to make grape jelly and sells it at our spring Farmer's Market, learning the process from harvesting to the science of preserving to selling the product. Our SPED students worked with our district chef to create baked goods using our school chicken eggs. They raised \$500 for our local food bank while learning math.

#### **3. How does your school use sustainability and the environment as a context for learning green technologies and career pathways?**

Through integrating these concepts into the curriculum and exploring green technologies in our STEM initiatives, students are learning about the vast array of career opportunities. Our community partners, parents, district sustainability staff all have a role in demonstrating green career pathways available in the community ranging from park rangers to sustainability report writers. We have evidence that students are taking what they learned at the elementary level about sustainability and the environment to influence their academic work at the middle school level. For example, our former sixth graders took their passion of gardening to middle school where they built an aquaponics structure. Inspiring the passion for sustainability in these students indicates they will continue to explore a future career in the field.

### **Element IIIC: Development and application of civic knowledge and skills**

#### **4. Describe students' civic/community engagement projects integrating environment and sustainability topics.**

At Heritage we partnered with our local National Refuge: The Rocky Mountain Arsenal Refuge. The ranger visited our school and worked with our sixth grade leadership team to help us understand the ecosystem of the prairie. We were able to visit the Rocky Mountain Arsenal Refuge on a field trip and observed their pollinating garden. Students were able to participate in prairie restoration. The leadership team used this new found knowledge in the creation of our native habitat garden and shared their findings with the whole school via a video they created. The SPED team and students raised \$500 for our local community food bank through a bake sale with ingredients from our garden and chickens. Projects that arise out of our environmental audits are all intended to address environmental issues for the school community and oftentimes into the broader community. Our goal: Students as leaders being educated to create, value, and participate in a sustainable world.

**5. Describe students’ meaningful outdoor learning experiences at every grade level.**

Kindergarteners and first graders plant an apple orchard in connection with their “Apple” unit, using our own rich compost to enrich the soil. In second grade, students plant a tulip test garden as part of the international science project called Journey North. Through the program, they connected with hundreds of other schools in the Northern Hemisphere and shared their local observations while tracking the progress of the tulips. In third grade, students used the *three sisters* method of planting corn, beans, and squash after learning about this during their Native American studies as an experiment to see if planting a fish under the corn would enhance its growth. In connection with their solar system unit fourth graders are creating a sundial in the garden to learn about the interaction between the earth and the sun. Sixth grade uses the outdoors to practice the art of observing via properties and large scale reactions. We focused on observing color, texture, clarity...and then dug deep to think about large scale reactions that were taking place or that had taken place prior to our arrival. This activity helped us to observe and identify different mixtures and the effects water has on them (large-scale reaction).

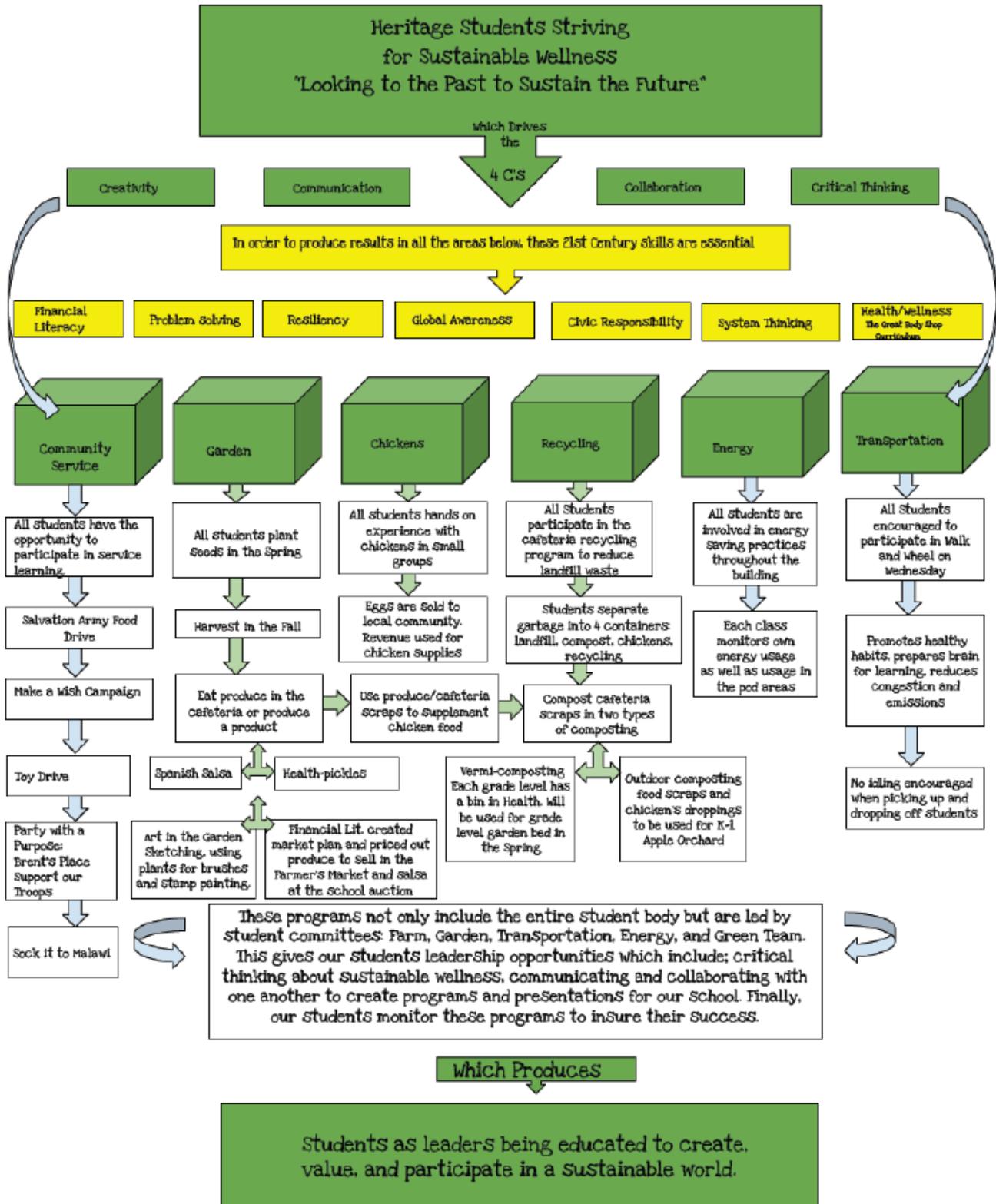
**6. Describe how outdoor learning is used to teach an array of subjects in context, engage the broader community and develop civic skills.**

Outdoor learning is a great method for our teachers to teach a variety of subjects in context. As mentioned in previous sections, all grade levels are involved in outdoor learning. There, we teach science (experiments in biology), language (Spanish classes), social studies (cultural differences), health and wellness, and art through inquiry, observation, and just appreciation of nature. Our school grounds are a hub for the community to learn about sustainability by helping with the garden, chickens, and composting. Through this, students see the broader impact of their work and learn the civic applications. For example, second graders are involved in a service-learning project. After learning about communities and how fortunate we are in Highlands Ranch, they have decided to raise money to buy a goat for a family in Africa. In order to raise this money they decided to have a car wash and lemonade stand.

**7. Describe your partnerships to help your school and other schools achieve in the 3 Pillars. Include both the scope and impact of these partnerships.**

- We partner with Red Apple Recycling to conduct clothing/textile drives for students and the community. Since 2012, we have diverted 20,000 pounds of textiles from the landfill while earning funds for our sustainability initiatives.
- We work with the National Wildlife Federation Eco-Schools USA for resources, grants, and trainings to support our teachers and students. We use their environmental audits for energy, waste, and health and wellness and have achieved the Green Flag (the highest award conferred by the organization).
- Rocky Mountain Arsenal Refuge enhances our environmental studies.
- Our district chef helps our students learn about nutrition and cooking.
- Our tower gardens are purchased from Juice Plus, who provides resources and materials.
- Local businesses help to sponsor many of our projects.
- Xcel Energy provides our students with “Think Energy” take-home kits.
- Green Up Our Schools provides grants and ongoing mentorship over three years to reduce school waste.
- DCSD Office of Sustainability is a partner with us in providing resources and support for our endeavors. We support them by providing resources and support for other schools and teachers throughout the district. We share curriculum, training, and consulting widely.

8. Describe any other ways that your school integrates core environment, sustainability, STEM, green technology and civics into curricula to provide effective environmental and sustainability education, highlighting on innovative or unique practices and partnerships. See the infographic below.



## Additional Supporting Evidence Heritage Elementary School Photographs and Captions



### **Children Carrying Straw Bales**

Third graders working to assembly Heritage's straw bale garden. The decision to try straw bale gardening came from our Farm/Garden Team in response to the questions, "How do we keep the rabbits and chickens from eating our garden plants?"



### **Chef Jason and Students Holding Grape Jelly**

After harvesting grapes from the school garden, sixth graders learn the science of preservation from our District Chef. Rounding out the experience, they priced and sold the jelly at our Spring Farmers Market.



### **Students in Green Shirts**

Heritage Elementary Green Team members celebrate achieving the Eco-Schools USA Green Flag Award with the National Wildlife Federation, teachers, and parents.



### **Bumble Bee Box**

Two of these bumble bee boxes circulated through the classrooms. Students were able to observe the life cycle of the bumble bee after watching a short video explaining the life cycle. Through this process students used their critical thinking skills to determine the effect a declining bee population would have on our food supply and economics. To take the process further, students came up possible solutions to this problem.



### **Green Team, Teachers, and District COO Feed the Chickens**

Students lead a tour for the Douglas County School District Chief Operating Officer Thomas Tsai, demonstrating the four waste streams at Heritage: recycling, composting, landfill, and chickens. Mr. Tsai even assisted by feeding the chickens.